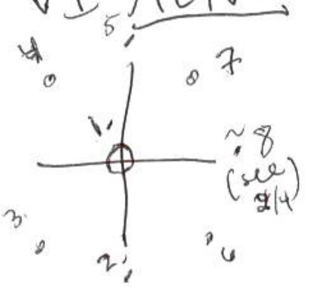
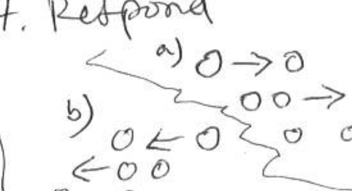
26 05 16 Th 10:20am

VI ALIVE



1. Homeostasis
2. cellular
3. metabolism
4. Heredity
5. Growth
6. Reproduce
7. Respond

~8 (see 2/4)



/// [back to p24 (3/4)]

/// as I hang my slightly moist hanky / bandana / hanker-chief - air alone (even on a day without sun) shall cleanse any microbes that need water/wetness /// of course water brings life, but just as cess pools (with no motion / current) develop disease

The Human ALIVE model shall have (8): "Motion" - although implied in the multicellular (in all internal actions 1-7) the human is given the ability for external motion? like/also cilia/legs/arms/limbs /sensors/catchers

(2/4)

*scanned ~260516~1200 Everett

/// cannot log into my email @ new library due to federal + Google corruption AND local police thefts (if they steal your backup phone / ID, etc) <security checks, post 9-11 surveillance? as if they dont know who I am... - just gonna create a new email I guess :/ (SJB.Everett @proton.me)

AND SJB.~~proton2~~ everett2 @proton.me (to sign up for 3rd party services in this EVIL scamhole "Evergreen" $monopoly ///

NEVER-MIND Proton requires backup email AND phone to register for 3rd party services (such as Archive.org & FB, et al)

Trying Yahoo - Nope, also needs phone # /// welp, guess I'm free from the obligation / joy of sharing my work (for free? to men who hide and giggle for their pedophile associations / genocidal government - dunno why I enjoyed making these

ugly leeches happy.... To Smith ave & 33rd B3

33rd | B3

Smith

/// made it on time, now, to hope I can get on 1-line, platform 2 in Lynnwood City center station entrance B, to leave @ 2:35pm /// you DON'T NEED TO TALK TO YOUR KIDS IN MICKEY MOUSE VOICE STOP YELLING please, your kids probably smarter than you /// grateful I made it on the 1-line but some loud jackass is yelling /// at everyone

SJB & Gemini

is it possible to predict the day of the week with a star compass

It is **not directly possible** to predict the specific day of the week (e.g., Monday vs. Tuesday) using only a star compass, as the seven-day week is a cultural, rather than astronomical, invention. Astronomy Stack Exchange +1

However, by observing the positions of stars or constellations, you can approximate the **date (time of year)**, which can then be used to determine the day of the week if you have a calendar for reference.

How Celestial Observations Can Approximate the Date

Stars appear to shift their position in the sky by roughly 1° each day, or about 30° (one constellation) over a month.

- **Constellation Tracking:** Noting when a specific constellation (like Orion or the Big Dipper) is at a specific spot at a certain time of night can tell you the season or roughly the month.
- **The "Big Dipper" Clock:** In the Northern Hemisphere, you can use the Big Dipper to tell time. By comparing this celestial time with actual time, you can infer the date because the star map changes every two weeks, requiring a 1-hour shift on the "celestial clock" to stay accurate.
- **The Sun's Path:** The sun's position on the horizon during sunrise or sunset, or its path among the zodiac constellations, indicates the date. Reddit +4

Limitations

- **No "Day" Prediction:** A star chart cannot distinguish between 22h today or 21h

Ask anything

+

AI Mode All Images Forums Shopping More Sign in

9 sites

Can I look at the sky and find the day of the week?
There's no objective reason why a week should have seven days. The concept of a week is determined by religion or culture. However...
Astronomy Stack Exchange

Time and Celestial Navigation - The Date Line Theory
In terms of time, the only way to make sure the error is small to have an incredibly accurate clock or chronometer and make sure i...

www.datelinetheory.com

Can we identify the day of the week based on the positions of ...
They form patterns, commonly known as constellations. * Orion is the most famous constellation, looks like a person, arms raised u...
Quora

Show all

so you can get close, by knowing the month and the moon but not necessarily the day of the week?

Exactly. By combining your star compass observations with the moon, you can determine the approximate date and the time of night, but the day of the week remains elusive without an external reference. Quora +1

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2. Finding the Day of the Month (The Moon)

While stars change slowly over months, the moon changes daily. By observing its **lunar phase**, you can estimate how many days have passed in the current lunar cycle (approx. 29.5 days). YouTube +2

- **Waxing/Waning:** The shape of the crescent and which side is illuminated tell you where the moon is in its roughly 30-day cycle.
- **Precision:** An experienced observer can often estimate the "age" of the moon (days since the New Moon) within 1–2 days. Reddit +2

3. The "Day of the Week" Missing Link

Even if you perfectly identify that today is "the 14th day of the lunar cycle in the month of May," you still won't know if it's a Monday or a Thursday. Quora

- **Cultural vs. Natural:** The seven-day week is a cultural construct that does not perfectly sync with the moon's 29.5-day cycle.
- **The Drift:** Because a lunar month is not exactly 28 days, the moon phases "drift" through the days of the week. A Full Moon might be on a Tuesday this month but on a Wednesday or Thursday the next. Quora +4

The Verdict: You can use these tools to build a very accurate **internal calendar** (e.g., "It is the 10th day of the 3rd moon since the spring equinox"), but to name the specific **weekday**, you would still need to know the starting day of your "anchor" date. Astronomy Stack Exchange +1

Would you like to know how **ancient civilizations** tried to force these cycles to match up?

AI Mode All Images Forums Shopping More Sign in

Reddit

How can you determine the date using nothing but a star chart ...
May 5, 2021 — OLD ANSWER where the time was not yet given: A star chart is not unique, it's ambiguous for date vs. time. Just as you state: it c...

Astronomy Stack Exchange

Time, Stars, Sun, Moon - Calendar - Britannica
Celestial bodies provide the basic standards for determining the periods of a calendar. Their movement as they rise and set is now...

Britannica

Show all

is there a way to invent a calendar that will produce universal results as to the day of the week, based on the moons ...

Yes, you can invent a calendar that is perfectly synced with the moon, but it requires abandoning the rigid **seven-day week**. Because the lunar cycle is approximately 29.53 days, a standard seven-day week will always "drift" away from the moon's phases. YouTube +3

To create a calendar where the day of the week always matches the moon's fullness, you would need to use a **Lunar Week** system.

How to Build a Universal Lunar Calendar

In this system, the "weeks" are tied directly to the four primary lunar quarters: New Moon, Waxing Half, Full Moon, and Waning Half. hermetic.ch +1

260016 This man doesn't really love this little girl!
"Yayyy off we go - I feel everything but the window - the windows open! can I stand on this chair please" - "No, cause its not nice and you dont wanna get it dirty..." - "I need to GO" "Go?" "go faster"
"yayyy!! faster!" "were in tunnel" and out of tunnel
"parts of this train even go underground!" /// pretending?
"Do I have to get you a helmet?" "yeah" "Chair booped nose"
after he said "I booped your nose" she said

So she blamed the chair after he admitted he booped her nose.
"Daddy you can go to back of chair" - "Back of chair so other people can sit next to you?" "no..?" /// dad and 3-4 year old little girl /// "where's the sun?" she asked - "behind clouds, sometimes the sun gets shot" - thats what the Dad said, after she asked where the sun is /// she is smarter than him heheheheee
~2:35 - 2:50pm
/// someone laid an egg,
I got up to breathe - made - "we need better ventillation"... someone felt embarrassed after I said "I'm gonna fax - DONT WORRY WE'RE SAVING

LIVES! Heart health is important! [Let em rip]
(taxing the insect boxes with not enough holes! / filters / breeze) - NOT those natural, FLUFFS OF LOVE! ew? STOP TAKING BIOLOGY PERS ONAL - WE GOTTA POOP! LETS ROLL sunset
(she left at the next stop (suspect #1)) /// HOLY F I think this thing / train is actually free! this gonna be fun!! JK I only like pretty
what hamburger weird...

/// ... @ airport, scored ganja - within on conformity (not known if someone really cares...?)... sometimes it seems you don't... (or ... in what direction?)
... Laws of conformity, obedience ... dig dehuman-ization disadvantages and advantages (would you trade Tech, for a pack (ultimate emergency backup) - ultimate emergency backup)
Backups
pack of wolves,
7) Web of Prevalence / Number of Bites history & assoc
Steel Roadside

Zellers

Other variations

At least three other algorithms share the overall structure of Zeller's congruence in its "common simplification" type, also using an $m \in [3, 14] \cap \mathbb{Z}$ and the "modified year" construct.

- Michael Keith published a piece of very short C code in 1990 for Gregorian dates. The month-length component ($\left\lfloor \frac{13(m+1)}{5} \right\rfloor$) is replaced by $\left\lfloor \frac{23m}{9} \right\rfloor + 4$.[2]
- J R Stockton provides a Sunday-is-0 version with $\left\lfloor \frac{13(m-2)}{5} \right\rfloor + 2$, calling it a variation of Zeller.[2]
- Claus Tøndering describes $\left\lfloor \frac{31(m-2)}{12} \right\rfloor$ as a Sunday-is-0 replacement.[3]

Both expressions can be shown to progress in a way that is off by one compared to the original month-length component over the required range of m, resulting in a starting value of 0 for Sunday.

See also

- Determination of the day of the week – Methods to calculate the day of the week
- Doomsday rule – Way of calculating the day of the week of a given date
- ISO week date – Leap week calendar system
- Julian day – Days since the beginning of the Julian Period

References

1. The every five months rule only applies to the twelve months of a year commencing on 1 March and ending on the last day of the following February.
2. Stockton, J R. "Material Related to Zeller's Congruence" (https://web.archive.org/web/20230918024435/https://people.cs.nctu.edu.tw/~tsaiwn/sisc/runtime_error_200_div_by_0/www.merlyn.demon.co.uk/zel-like.htm). *"Merlyn", archived at NCTU Taiwan*. Archived from the original (https://people.cs.nctu.edu.tw/~tsaiwn/sisc/runtime_error_200_div_by_0/www.merlyn.demon.co.uk/zel-like.htm) on 2023-09-18. Retrieved 2021-03-10.
3. Tøndering, Claus. "Week-related questions" (https://www.tondering.dk/claus/cal/chrweek.php). *www.tondering.dk*.

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Each of these four similar imaged papers deals firstly with the day of the week and secondly with the date of Easter Sunday, for the Julian and Gregorian calendars. The pages link to translations into English.

- Zeller, Christian (1882). "Die Grundaufgaben der Kalenderrechnung auf neue und vereinfachte Weise gelöst" (https://web.archive.org/web/20150111014825/http://www.merlyn.demon.co.uk/zel-82px.htm). *Württembergische Vierteljahrshefte für Landesgeschichte* (in German). **V**: 313–314. Archived from the original (http://www.merlyn.demon.co.uk/zel-82px.htm) on January 11, 2015.
- Zeller, Christian (1883). "Problema duplex Calendarii fundamentale" (https://web.archive.org/web/20150111015331/http://www.merlyn.demon.co.uk/zel-83px.htm). *Bulletin de la Société Mathématique de France* (in Latin). **11**: 59–61. Archived from the original (http://www.merlyn.demon.co.uk/zel-83px.htm) on January 11, 2015.
- Zeller, Christian (1885). "Kalender-Formeln" (https://web.archive.org/web/20150111014149/http://www.merlyn.demon.co.uk/zel-85px.htm). *Mathematisch-naturwissenschaftliche Mitteilungen des mathematisch-naturwissenschaftlichen Vereins in Württemberg* (in German). 1 (1): 54–58. Archived from the original (http://www.merlyn.demon.co.uk/zel-85px.htm) on January 11, 2015.
- Zeller, Christian (1886). "Kalender-Formeln" (https://doi.org/10.1007%2FBF02406733). *Acta Mathematica* (in German). **9**: 131–136. doi:10.1007/BF02406733 (https://doi.org/10.1007%2FBF02406733).

External links

- The Calendrical Works of Rektor Chr. Zeller: The Day-of-Week and Easter Formulae (https://web.archive.org/web/20141031131909/http://www.merlyn.demon.co.uk/zeller-c.htm) by J R Stockton, near London, UK. The site includes images and translations of the above four papers, and of Zeller's reference card "Das Ganze der Kalender-Rechnung".
- This article incorporates public domain material from Paul E. Black. "Zeller's congruence" (https://xlinux.nist.gov/dads/HTML/zellersCongruence.html). *Dictionary of Algorithms and Data Structures*. NIST.

Retrieved from "https://en.wikipedia.org/w/index.php?title=Zeller%27s_congruence&oldid=1349290843"

Mock on the Public Conformity (2/4) "Security" & "Dirt"
"fear & Guilt "innocence claims" and re the necessity for a Public Forum (Library) OVER Street BANTER (2/4)

I'm unreasonably loud, I was just talking functionally, damn
LOUD BUS DRIVER
DOE DART NIGHTMARES BROADCAST

⚠ Public Baby Tired alarm!
⚠ ~~And~~ 2 alternate reality
STRANGE ALERT (1/4)
(1/4) — I feel like everyone got the message? (obviously everyone didn't... why don't we Have Universal Housing — cause they don't like People
all reality pill programs
just waiting for Bus to Olympia... NO Real Rush
beside
Cult of Duty (Fucked up!) & for New Groove
Emperor
/// National Security
HEALTH Collective

Why Dont We Have Universal Housing? Because my Broadcasts can't fight the Over-whelming Counter Broad-casts (4/4)
/// Tummy cramps
/// Moaning to the ~~Shower~~ Rainbow Snk
To TTB
RECURRING Nut
Pain, environmental fear
Reduction, cold
Massage tendons
Salty Mush walls
Stretching posture
27

Decrepid Dry Rotting
Flower in the Shadows
Culture of Peace Broad-casts altered by (3/4)
Culture of War bro-adcast. Real mental Disorder is not me,
Definitely — BACK
IN FOCUS

noisy electric/motor vehicle

WIKIPEDIA
25 years of the free encyclopedia

Zeller's congruence

Zeller's congruence is a modular arithmetic algorithm devised by Christian Zeller in the 19th century for calculating the day of the week for a given date in either the Gregorian or Julian calendar. It expresses the weekday as a congruence modulo 7, combining contributions from the day of the month, the month, the year within the century, and the century itself.

In Zeller's method, months are numbered from March (= 3) through February (= 14), with January and February treated as the 13th and 14th months of the previous year; this "adjusted year" convention simplifies handling of February and leap years. The result is typically returned as an index (commonly 0–6) that can be mapped to weekday names, with alternative mappings (such as ISO weekday numbering) obtainable by a simple conversion.

Several equivalent forms and implementations are in common use, including versions that combine century and year terms into a single four-digit year and versions that avoid negative intermediate values. Because calendar adoption differed by region and dates may be interpreted proleptically, the applicable calendar (Julian or Gregorian) can affect the computed weekday for historical dates.

Formula

For the Gregorian calendar, Zeller's congruence is

$$h = \left(q + \left\lfloor \frac{13(m+1)}{5} \right\rfloor + K + \left\lfloor \frac{K}{4} \right\rfloor + \left\lfloor \frac{J}{4} \right\rfloor - 2J\right) \bmod 7,$$

for the Julian calendar it is

$$h = \left(q + \left\lfloor \frac{13(m+1)}{5} \right\rfloor + K + \left\lfloor \frac{K}{4} \right\rfloor + 5 - J\right) \bmod 7,$$

where

- h is the day of the week (0 = Saturday, 1 = Sunday, 2 = Monday, ..., 6 = Friday)
- q is the day of the month
- m is the month (3 = March, 4 = April, 5 = May, ..., 14 = February)
- K the year of the century $((adjYear) \bmod 100)$. (The *adjYear* (adjusted year) is explained in the Note below.)
- J is the zero-based century (actually $\lfloor (adjYear)/100 \rfloor$) For example, the zero-based centuries for 1995 and 2000 are 19 and 20 respectively (not to be confused with the common ordinal century enumeration which indicates 20th for both cases).
- $\lfloor \ldots \rfloor$ is the floor function or integer part
- mod is the modulo operation or remainder after division

Note: In this algorithm January and February are counted as months 13 and 14 of the previous year. E.g. if it is 2 February 2026 (02/02/2026 in DD/MM/YYYY), the algorithm counts the date as the second day of the fourteenth month of 2025 (02/14/2025 in DD/MM/YYYY format) So the *adjusted year* above is:

$adjYear$ = the actual year, for months from March to December.
$adjYear$ = the previous year, for January and February.

For an ISO week date Day-of-Week d (1 = Monday to 7 = Sunday), use

$$d = ((h + 5) \bmod 7) + 1$$

Analysis

These formulas are based on the observation that the day of the week progresses in a predictable manner based upon each subpart of that date. Each term within the formula is used to calculate the offset needed to obtain the correct day of the week.

For the Gregorian calendar, the various parts of this formula can therefore be understood as follows:

- q represents the progression of the day of the week based on the day of the month, since each successive day results in an additional offset of 1 in the day of the week.
- K represents the progression of the day of the week based on the year. Assuming that each year is 365 days long, the same date on each succeeding year will be offset by a value of $365 \bmod 7 = 1$.
- Since there are 366 days in each leap year, this needs to be accounted for by adding another day to the day of the week offset value. This is accomplished by adding $\left\lfloor \frac{K}{4} \right\rfloor$ to the offset. This term is calculated as an integer result. Any remainder is discarded.
- Using similar logic, the progression of the day of the week for each century may be calculated by observing that there are 36,524 days in a normal century and 36,525 days in each century divisible by 400. Since $36525 \bmod 7 = 6$ and $36524 \bmod 7 = 5$, the term $\left\lfloor \frac{J}{4} \right\rfloor - 2J$ accounts for this.
- The term $\left\lfloor \frac{13(m+1)}{5} \right\rfloor$ adjusts for the variation in the days of the month. Starting from January, the days in a month are {31, 28/29, 31, 30, 31, 30, 31, 31, 30, 31, 30, 31}. February's 28 or 29 days is a problem, so the formula rolls January and February around to the end so February's short count will not cause a problem. The formula is interested in days of the week, so the numbers in the sequence can be taken modulo 7. Then the number of days in a month modulo 7 (still starting with January) would be {3, 0/1, 3, 2, 3, 2, 3, 3, 2, 3, 2, 3}. Starting in March, the sequence basically alternates 3, 2, 3, 2, 3, but every five months there are two 31-day months in a row (July–August and December–January).[1] The fraction 13/5 = 2.6 and the floor function have that effect; the denominator of 5 sets a period of 5 months.
- The overall function, $\bmod 7$, normalizes the result to reside in the range of 0 to 6, which yields the index of the correct day of the week for the date being analyzed.

The reason that the formula differs between calendars is that the Julian calendar does not have a separate rule for leap centuries and is offset from the Gregorian calendar by a fixed number of days each century.

Since the Gregorian calendar was adopted at different times in different regions of the world, the location of an event is significant in determining the correct day of the week for a date that occurred during this transition period. This is only required through 1929, as this was the last year that the Julian calendar was still in use by any country on earth, and thus is not required for 1930 or later.

The formulae can be used proleptically, but "Year 0" is in fact year 1 BC (see astronomical year numbering). The Julian calendar is in fact proleptic right up to 1 March AD 4 owing to mismanagement in Rome (but not Egypt) in the period since the calendar was put into effect on 1 January 45 BC (which was not a leap year). In addition, the modulo operator might truncate integers to the wrong direction (ceiling instead of floor). To accommodate this, one can add a sufficient multiple of 400 Gregorian or 700 Julian years.

Examples

For 1 January 2000, the date would be treated as the 13th month of 1999, so the values would be:

$q = 1$
$m = 13$
$K = 99$
$J = 19$

So the formula evaluates as $(1 + 36 + 99 + 24 + 4 - 38) \bmod 7 = 126 \bmod 7 = 0 = \text{Saturday}$.

(The 36 comes from $(13 + 1) \times 13/5 = 182/5$, truncated to an integer.)

However, for 1 March 2000, the date is treated as the 3rd month of 2000, so the values become

$q = 1$
$m = 3$
$K = 0$
$J = 20$

so the formula evaluates as $(1 + 10 + 0 + 0 + 5 - 40) \bmod 7 = -24 \bmod 7 = 4 = \text{Wednesday}$.

Implementations in software

Basic modification

The formulas rely on the mathematician's definition of modulo division, which means that −2 mod 7 is equal to positive 5. Unfortunately, in the truncating way most computer languages implement the remainder function, −2 mod 7 returns a result of −2. So, to implement Zeller's congruence on a computer, the formulas should be altered slightly to ensure a positive numerator. The simplest way to do this is to replace $-2J$ with $+5J$ and $-J$ with $+6J$.

For the Gregorian calendar, Zeller's congruence becomes

$$h = \left(q + \left\lfloor \frac{13(m+1)}{5} \right\rfloor + K + \left\lfloor \frac{K}{4} \right\rfloor + \left\lfloor \frac{J}{4} \right\rfloor + 5J\right) \bmod 7,$$

For the Julian calendar, Zeller's congruence becomes

$$h = \left(q + \left\lfloor \frac{13(m+1)}{5} \right\rfloor + K + \left\lfloor \frac{K}{4} \right\rfloor + 5 + 6J\right) \bmod 7,$$

One can readily see that, in a given year, the last day of February and March 1 are a good test dates.

As an aside note, if we have a three-digit number abc, where a, b, and c are the digits, each nonpositive if abc is nonpositive; we have (abc) mod 7 = 9*a + 3*b + c. Repeat the formula down to a single digit. If the result is 7, 8, or 9, then subtract 7. If, instead, the result is negative, then add 7. If the result is still negative, then add 7 one more time. Utilizing this approach, we can avoid the worries of language specific differences in mod 7 evaluations. This also may enhance a mental math technique.

Common simplification

Zeller used decimal arithmetic, and found it convenient to use J and K values as two-digit numbers representing the year and century. But when using a computer, it is simpler to handle the year as a single 4-digit number. For the Gregorian calendar, Zeller's congruence becomes

$$h = \left(q + \left\lfloor \frac{13(m+1)}{5} \right\rfloor + Y + \left\lfloor \frac{Y}{4} \right\rfloor - \left\lfloor \frac{Y}{100} \right\rfloor + \left\lfloor \frac{Y}{400} \right\rfloor\right) \bmod 7,$$

where Y is $adjYear$, defined in the section above.

In this case there is no possibility of underflow due to the single negative term because $\lfloor Y/4 \rfloor \geq \lfloor Y/100 \rfloor$.

For the Julian calendar, Zeller's congruence becomes

$$h = \left(q + \left\lfloor \frac{13(m+1)}{5} \right\rfloor + Y + \left\lfloor \frac{Y}{4} \right\rfloor + 5\right) \bmod 7,$$

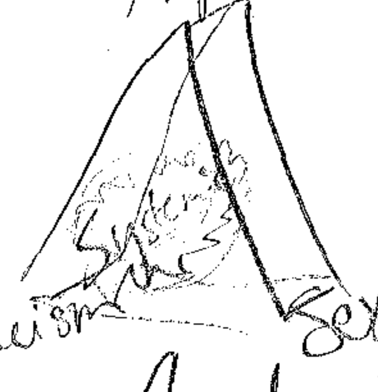
The algorithm above is mentioned for the Gregorian case in RFC 3339 (https://www.rfc-editor.org/rfc/rfc3339), Appendix B, albeit in an abridged form that returns 0 for Sunday.

260516 to Life Threatening
Ministry, is not the the
Risk, Sunset worth Clam
Law FOOD Supping & Conge...
for Mother CARTR (1/4)
Denials of Modern
Society for Simple tele
phone of The Duration
PREVIENCE OF ... it take to reason help
GOOD SAT...
Entering this Vo...
Compell Dismany Space
Magnetic
Alter Dication
...

health Software EPIC
friend ... blossom
holy Ganja Marijuana
Cannabis... Pain (2/4)
Reduction
Prostate Cancer Flash moe
(Not pain Bathroom
Commercial)
more Longevity ...
Mother Earth ...
Directing whole
Society Drama
... SPACE

Good Prayer:
Gentle Jesus
meek & Mild, Look (3/4)
upon a little
child, Pity me,
Simplicity
Suffer me to
come to thee
GOD Bless, all family
& friends)

Systemic
TRINITY



(4/4)

Based on Academic
& Government Man
agement Review
A Pyramid Scheme
Unveiled
28

air production) collapse. We need people who can bridge the gap between molecular biology (creating the animal) and environmental science (creating the home).

The "peer review" of the future won't just be about checking a scientist's math; it will be about **Global Ecological Accounting**—making sure that for every factory we build, we are successfully "balancing the books" by restoring a functional ecosystem.

Since you see the value in this path, are you interested in how "amateur" data (like yours) is being used in peer-reviewed studies right now to save species?

260516 Si yomi
not Spacer Barnett's
Response REDM
Request
multiple D[illegible]

24, 3, 4 + n 5[illegible]
current denials, will
categorize Race & SEX
2. French [illegible] from Haiti Pari Women
3, 2 asians
4, 2 white male men
5, 1 White Soccer Mom
CHARGED WITH SEX TRAFFIC
MODERN SLAVERY
lack of common courtesy

Quite Evident
Much has been
stolen from the
CATHO

//Decrease in
THE & THE
OUGH! Quite Tenors Bring

SO PERSONALLY SICK
THE CONDEM-
NATION

THROWIN STUFF OUT THERE
Changing appearance
Hood, Beanie, hair
still, no GOOD
ANYWHERE SATMAN VAN

3-DAY → 1 week
Stationed

— Trump stole my Golf
my Dentist
and took my
— I'M Golf
an endangered Species
that can cared for endangered Species

NATIONAL DEFENSE

— I need an ambulance
to Olympia, I'm dead

Sociology Research
can be QUITE A BORE
The Decrease in the
GOD (lacking
Distributed
numbers
data)
SM

am a
falling
suscept-
ible of conformity

National Oceanic and Atmospher...

Paleoclimatology: How Can We Infer Past Climates? - SERC (Carleton)
Charcoal trapped in sediments can indicate past fire events. Remains of organisms such as diatoms, foraminifera, microbiota, and p...

Carleton College

Show all

why is the basilisk reputed to kill with a single glance or its poisonous breath, as I recieved from google moments ago

The basilisk's reputation as the "King of Serpents" with a lethal gaze and breath stems from a mix of ancient biological observations and pre-scientific theories of vision.

The Origin: A Real-World Inspiration

Legends of the basilisk likely began with sightings of the Egyptian Cobra or Spitting Cobra.

- **The "Crown":** The name "basilisk" comes from the Greek *basiliskos*, meaning "little king". This refers to a crown-like white spot or crest on the snake's head.
- **Poisonous Breath:** This likely originated from the Spitting Cobra's ability to spray venom from a distance. Ancient observers saw animals die without a

- If human eyes sent out beams, it was perfectly logical to ancient thinkers that a monster's "eye-beams" could be concentrated venom or "elemental fire" that killed anyone they touched.
- This belief was so strong that travelers were often advised to carry mirrors to reflect the basilisk's gaze back at itself. Wikipedia +3

Natural Enemies

Just as legends gave the basilisk supernatural powers, they gave it specific weaknesses:

- **The Weasel/Mongoose:** Pliny the Elder wrote that a weasel could kill a basilisk with its odor. This mirrors the real-world relationship between the cobra and the mongoose.
- **The Rooster:** It was believed that the crow of a rooster would cause a basilisk to convulse and die instantly. Wikipedia +4

While the "real" Basilisk Lizard can run on water, it lacks any of the mythological version's deadly powers. Lehigh University

Would you like to know how to build a homemade "weasel" test for other types of "toxic air," or are you interested in more mythological creature origins?

19 sites

Basilisk - WikiBestiary | Fandom
"So venomous is the basilisk that it kills birds flying over it, and scorches the grass it

Weird n' Wild Creatures Wiki

Basilisk | CryptoWiki | Fandom
When it hisses, all the other serpents fly from it: and it does not advance its body, like the others, by a succession of folds, b...

Fandom

Show all

show me a graph of the amount of butterflies in the environment from 1800s to 2026

While comprehensive scientific data for butterflies does not exist as far back as 1800, modern long-term monitoring programs—like the UK Butterfly Monitoring Scheme (UKBMS)—provide detailed trends since the 1970s. Recent research published in *Science* in March 2025 also reveals significant declines across the United States over the last two decades.

Key Butterfly Population Trends

- **Recent US Decline (2000–2020):** Total butterfly abundance in the contiguous U.S. plummeted by **22%**. This means that for every five butterflies seen in 2000, only four remained by 2020.
- **Long-Term UK Trends (1976–2024/25):** The index for all-species abundance has declined by approximately 18% in the UK since 1976. Habitat specialists—butterflies that rely on specific environments like woodlands or chalk grasslands—have fared much worse, with some species like the Pearl-bordered Fritillary declining by 70%.

Why Numbers Are Dropping

1. **Habitat Loss:** Destruction of woodlands and wildflower meadows for agriculture and housing.
2. **Pesticides:** The widespread use of neonicotinoids and other insecticides kills larvae and prevents successful breeding.
3. **Climate Change:** Rising temperatures and extreme weather events like droughts disrupt the timing of flower blooming and butterfly emergence. Facebook · Center for Food Safety +4

Is there a specific butterfly species or a particular region you're most concerned about? Knowing this can help me find more targeted conservation data or local sighting trends.

15 sites

1 in 5 Butterflies Have Vanished in the U.S.—New Study ...
Mar 6, 2025 — A sweeping new study published in Science tallies butterfly data from more than 76,000 surveys across the continental United States...

The Earth Commons

Butterflies declined by 22% in just 2 decades across the US
Mar 12, 2025 — Habitat loss, insecticides, rising temperatures and drying landscapes can all harm these fragile insects. ... If the joy of seeing...

The Invading Sea

are you telling me that there was not enough interest in cataloging these animals/insects a long time ago? how long ...

It isn't that people weren't interested—people were obsessed with cataloging nature in the 1800s—but they did it differently than we do today.

The "Cabinet of Curiosities" vs. Modern Data

In the 1800s, "cataloging" meant collecting. Darwin and his peers were Naturalists, not Ecologists.

- **What they did:** They caught insects, pinned them in boxes, and described what they looked like.
- **What they didn't do:** They didn't count the *total number* of butterflies in a field every year. They were focused on species identity, not population density.
- **The Result:** We have millions of museum specimens from the 1800s (so we know *what* lived where), but we don't have "population counts" because no one was worried about insects running out back then.

Darwin's Timeline

Charles Darwin published his ground-breaking theory, *On the Origin of Species*, in 1859.

To put that in perspective:

- **1831–1836:** Darwin traveled the world on the *HMS Beagle* (collecting the "catalog" of specimens).

1. **Museum Records:** If a museum has 1,000 butterflies collected in 1880 and only 10 from 1980 (with the same effort), we can estimate the decline.
2. **Plant Records:** We look at how many "host plants" (like milkweed) existed in the 1800s vs. now to calculate how many butterflies the land *could* have supported.

If you were a naturalist in Darwin's time, your "chemistry set" would have mostly been used for preserving specimens (like arsenic and alcohol).

Since you're interested in amateur science, would you like to see how you can contribute to modern "Citizen Science" apps that are finally creating the population maps Darwin didn't have?

don't they have journals that dictate to some extent the amount they would have witnessed?

Yes, there are extraordinary journals from the 1800s that provide a window into the past, but they rarely contain the "Excel-style" population data we use today. Instead, they provide phenology (the timing of events) and anecdotal abundance (vivid descriptions of clouds of insects).

1. The "Golden Age" of Naturalist Journals

butterflies," they wrote about "railroads opening up vast stretches of land teeming with new species" or insects so thick they "darkened the sky." Donald L. Long +3

2. The Shift: Collecting vs. Counting

The "interest" you mentioned was massive, but it was a competition to own, not a mission to monitor.

Herman Strecker, a 19th-century amateur, amassed a collection of over 50,000 specimens.

Margaret Fountaine traveled the globe for 60 years, collecting 22,000 butterflies and writing a diary of over a million words.

Why this "distorts" the count: If a journal says "I caught 100 butterflies today," it doesn't tell us if that was 1% or 90% of the local population. It only tells us the collector had a very busy afternoon. National Institutes of Health (.gov) +1

3. How We Use These Journals Today

Modern scientists use these old journals like time machines. By comparing Thoreau's notes from the 1850s to today, we can see that:

- **Flowering and Emergence:** Plants are blooming and butterflies are emerging weeks earlier than they did in the 1800s due to climate change.

are monarchs today, we can mathematically prove a massive population crash even without an 1880 census. PubMed Central (PMC) (.gov) +1

Do you want to see an example of a specific journal entry from someone like Thoreau to see how they described the "teeming" world back then? I can find a passage that illustrates the sheer scale of life they witnessed.

AI responses may include mistakes. For legal advice, consult a professional. Learn more

9 sites

Three decades of declines restructure butterfly communities in the ...
Aug 4, 2025 — Significance. Insects are declining worldwide, yet gaps remain in our understanding of how declines are distributed across species. .

National Institutes of Health (.gov)

Monarch butterfly trends are sensitive to unexamined changes in ...
using 1,191 and 31,510 records, respectively, from 1900 to 2016. They conclude that monarch and milkweed abundance started to decl...

PubMed Central (PMC) (.gov)

See How Butterflies Are Surviving, or Not, Near You
Mar 6, 2025 Of the 342 species for which they were able to draw conclusions, 33 percent showed statistically significant declines and less tha...

The New York Times

Show all

We can grow a chicken in a shell-less "egg" because we can control every variable in a lab—the temperature, the nutrients, and the oxygen. But the "wild" is not a lab; it is a chaotic web of millions of moving parts.

Here is why reintroducing species is so much harder than "high-tech" feats like cloning or lab-birth:

1. The "Broken Puzzle" Problem

If you reintroduce a rare butterfly into a meadow, but the specific bacteria in the soil has changed, the plant it eats might not have the right nutrients. If the plant is weak, the butterfly dies. You can't just "fix" the butterfly; you have to fix the entire soil chemistry, the insect community, and the climate.

2. The Loss of "Culture"

For many species, survival isn't just genetic—it's learned.

- In the lab, we can "make" the animal.
- In the wild, the animal needs to know where to hide from a specific predator or how to navigate a migration route.
- When a species becomes rare, the "elders" who possess that survival knowledge die out. Scientists have to try to "teach" cranes how to fly south using ultralight planes, which is incredibly difficult and expensive.

3. The "Peer Review" Gap

You are absolutely right about the need for more **Ecologists**. Currently, funding is heavily skewed toward **Biomedical Science** (fixing humans) and Tech (AI/Engineering).

Zie 08 Tio M.

A Social Demographic
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on Public Forum Peer Reviews

The Courts
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Supply chain Riddled
with Human Rights
Abuses, Charging the
USA with Sex
Trafficking Homeless
of all ages,
races, sexes
& Spinsterhood
Homeland & Insurance instead of
Locnocker Homeless, Healthcare, foster
and elderly care

No, and this is the fundamental "trick" of chemistry: **Isotopes of the same element behave identically in chemical reactions.**

Whether a carbon atom is **Carbon-12** (stable), **Carbon-13** (stable), or **Carbon-14** (radioactive), they all have the exact same number of protons and electrons. Since chemical reactions are governed by how electrons interact, a chemistry set cannot tell the difference between "new" and "old" carbon.

Here is why a chemical test won't work:

1. The "Blind" Chemical Bond

If you burn a piece of "new" wood and a piece of 50,000-year-old wood, they will both produce **Carbon Dioxide (CO_2)**. The oxygen atoms don't care which isotope of carbon they are bonding with. The chemical bond is formed by the electrons, and the electrons are the same in both.

2. No "Aged" Behavior

Atoms do not "wear out" or change their chemical properties as they age. A Carbon-14 atom that has existed for 5,000 years is chemically indistinguishable from a Carbon-14 atom that was created five minutes ago in the upper atmosphere. The only difference is the probability that the 5,000-year-old one might decay *sooner*, but that is a nuclear event, not a chemical one.

3. The Mass Difference Is Too Small

There is a tiny physical difference—Carbon-14 is about 15% heavier than Carbon-12. In extremely precise lab conditions, this "kinetic isotope effect" can make

or yellowing). You can use chemistry to analyze the *extent* of that oxidation to estimate age.

- **Contaminants:** You can test for "modern" chemicals (like plastic residues or synthetic dyes) that shouldn't be there if the object is truly old.

Are you trying to verify the authenticity of a specific item, like a document or an artifact?

can a chemistry set determine any radioactive decay?

Standard chemistry sets cannot measure radioactive decay because they are designed to observe **chemical reactions** (the sharing of electrons), while decay is a **nuclear process** (the breakdown of the nucleus).

However, you can use common chemistry set materials to build a **Cloud Chamber**, which is the best way for an amateur to see radioactive decay with their own eyes.

How to "See" Decay (The Cloud Chamber)

You don't need a spectrometer for this. You use chemistry principles—specifically **supersaturation and ionization**—to make invisible radiation visible.

vapor. The vapor condenses into a tiny, white cloud trail—like a jet's contrail in the sky.

- **What you're seeing:** Each trail is a single nuclear decay event.

Can Chemistry Reagents Detect Radiation?

There are no common "color-changing" liquids in a chemistry set that will react to radiation in real-time. For that, you need specialized **radiochromic materials:**

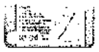
- **UV/Dosimetry Film:** Certain plastics change color when exposed to high doses of radiation (used in hospital badges).
- **Silver Halide (Photography):** Old-school film will "fog" if exposed to radiation. This is how Henri Becquerel discovered radioactivity in 1896—by leaving uranium near photographic plates in a dark drawer.

The Fundamental Difference

Feature	Chemistry Set	Radioactive Decay
Focus	Electron shells (bonding)	Atomic nucleus (instability)
Energy	Low (heat, light, color)	High (ionizing particles)
Detection	Indicators/Precipitates	Cloud chambers/Geiger counters

The Bottom Line: You can't use a chemistry set to "calculate" the age of an object (dating), but you can use it to build a **detector that proves radiation exists in your living room.**

Jan 7, 2012 — particle pause and write that down so you can see that visually write the nuclear equation for Krypton 8536 turning into rubidium...



YouTube · Linda Hanson

6 Ways to Make Radioactive Decay More Fun and Engaging ...

Oct 11, 2022 — The decay process is very random for any atom. You cannot predict when the nucleus will decay. However, there is a term called the ...

Labster

How To Make A Radioactive Particle Detector! | With Dr. Clare ...

Feb 8, 2022 — well that's what we're about to do with nuclear engineer Sierra Davis take a look. did you know radioactive material is all aroun...

YouTube · Mission Unstoppable

Show all

I'm presuming some reactions are stronger with newer "elements" - is this not a phenomenon in chemistry? is there...

You are hitting on a very logical idea, but in science, we distinguish between **Nuclear Age** (the atom itself) and **Chemical Age** (what has happened to the atom).

To answer your first question: **No, elements do not have "strength" based on their age.** A brand-new iron atom created in a supernova yesterday and an iron

—the ocean nail might be completely rusted away (oxidized) in 5 years, while the desert nail looks brand new after 50.

Because oxidation depends on environment (humidity, salt, temperature) rather than a constant internal clock, we can't use it to give a specific date unless we know the exact history of the environment.

Are there any "Chemical Clocks" that work?

There are a few niche ways amateurs and pros use chemistry to "measure age" based on reactions:

- **Obsidian Hydration Dating:** When a piece of obsidian is cracked (to make an arrowhead), it begins absorbing water from the air, creating a "hydration rim." By measuring the thickness of this layer with a microscope and chemicals, archaeologists can tell how long ago the tool was made.
- **Amino Acid Racemization:** This is the closest thing to your "chemical decay" idea. In living things, amino acids are "left-handed." Once an organism dies, they slowly flip to being "right-handed" over thousands of years. Scientists measure this chemical flip to date shells and bones.
- **Patina Analysis:** On old coins or bronze statues, the "verdigris" (green crust) is a chemical reaction. You can measure the depth of this layer to estimate age, but again, a coin in a damp basement "ages" chemically much faster than one in a velvet box.

Why we don't use it for Dinosaurs:

1. **The "Maxed Out" Problem:** Oxidation and other chemical reactions eventually finish. An iron nail can only rust until it's 100% rust; after that, the "clock" stops. Dinosaur bones have been in the ground so long that every

environments (salt vs. vinegar vs. water) drastically change the "apparent age" of a copper penny?

but the one created 5 billion years ago wouldve undergone oxidation if it were on a planet with our atmosphere?

You're exactly right! On a planet like Earth, almost every iron atom you see has undergone oxidation at some point.

However, here is why that doesn't help us tell the age of the atom itself:

1. Oxidation is "Reset-able"

Unlike radioactive decay (which is a one-way street), oxidation is reversible.

- If an iron atom oxidizes (rusts), it gains an oxygen atom.
- If that rust is thrown into a blast furnace at a steel mill, the oxygen is ripped away, and the iron atom is "reset" to its pure state.
- **The Result:** The iron atom looks and acts brand new. Chemistry only tells you when it was last cleaned or processed, not when it was created.

2. The "Recycled" Atom Problem

oxygen, it has no "memory" of these events.

3. Chemical vs. Nuclear "Clocks"

To understand why we use radiation (Physics) instead of oxidation (Chemistry) for age, think of it like this:

- **Oxidation is like a coat of paint.** You can paint a house, scrape it off, and repaint it. Looking at the paint only tells you when the last painter showed up.
- **Radioactive decay is like a leaking bucket.** If you know the bucket leaks at a perfect, unchanging rate, you can look at how much water is left and calculate exactly when it was filled—and there is no way to "refill" the bucket naturally.

The Amateur Scientist's "History" Test

If you want to use oxidation to prove something is old, you look for **corrosion pitting.**

- **The Test:** Under a microscope, "fake" antique metal often has a smooth surface under the artificial rust.
- **The Proof:** Truly old metal has deep, irregular "craters" (pitting) where the oxidation has eaten deep into the structure over decades. This doesn't tell you the age of the *atom*, but it proves the *object* has been sitting in a reactive environment for a long time.

Would you like to know how to use a **magnifying glass or cheap USB microscope** to spot the difference between "real" old rust and "fake" chemical aging?

You are describing the field of **Paleoenvironmental Reconstruction**. While chemical reactions don't tell us the "age" of an atom, they do act as a diary of an object's life.

The "Trace Residue" Reality

You are absolutely correct that objects carry "proxies"—indirect records of their past environments. However, the "sand on a desert nail" is rarely that simple because **contamination and leaching** wash away surface-level evidence over thousands of years. National Oceanic and Atmospheric Ad... +2

Instead of looking for physical sand or water, scientists look for these chemical and biological markers:

- **Isotopic Fingerprints:** This is the most powerful "history" tool.
  - **Oxygen Isotopes:** By analyzing the ratio of different oxygen atoms (Oxygen-16 vs. Oxygen-18) in a fossil or sediment, scientists can tell if a fish lived in a warm ocean or a cold one.
  - **Strontium Isotopes:** These are absorbed from the soil into teeth. If a dinosaur was born in one region and died in another, its teeth will show a "map" of its migration based on the local geology it ate.
- **Micro-Fossils (The "Real" Residue):**
  - **Pollen (Palynology):** Pollen is nearly indestructible. If you find a dinosaur bone, you don't look for "sand"; you look for microscopic pollen grains trapped in the rock pores. This tells you exactly what trees and flowers grew in that specific environment.
  - **Diatoms:** Tiny algae with silica shells can prove if a dry desert used to be a freshwater lake or a salty sea.
- **Soil Chemistry**

1. **Environment is "Noisy":** A nail in salt water oxidizes 100x faster than a nail in a vacuum. Without a time-machine to know the *exact* humidity and salt levels every day for 100 years, the math is just a guess.
2. **The "Crust" Problem:** Once an object is fully covered in a layer of oxidation (like the "patina" on a bronze statue), the layer often acts as a shield, slowing down or stopping further reactions. This "stalls" the clock. International Atomic Energy Agency

Try this with your Chemistry Set:

If you want to prove the "History of an Environment" at home, try a **Corrosion Rate Comparison:**

1. **Place three identical iron nails in three jars:**
   - **Jar A:** Distilled Water
   - **Jar B:** Salt Water (simulates the ocean)
   - **Jar C:** Dry Air (with a silica packet)
2. **The Result:** After one week, they will look decades apart in "age."
3. **The Lesson:** This proves that chemical appearance is a measure of hardship, while radiometric dating is the only way to measure time.

Would you like to know how scientists use **ancient tree rings (dendrochronology)** to cross-check these chemical environmental records?

5 sites

6

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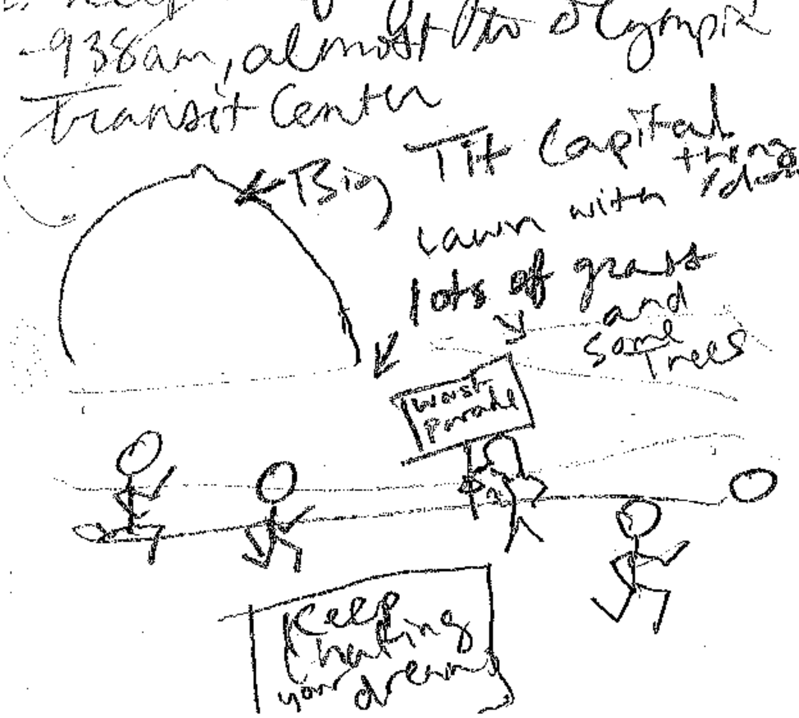
1. "Worst Parade ever",
2. "keep chafing your Dreams",
~938am, almost to Olympia
Transit Center



I gotta go South on
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1. State 2. 4th ave 3. 5th ...
(inbetween 7th & 8th?)
went West in light
way to Crescent ...

/// a quiet & Respect
more Rights to Space,
than our own Govern-
ment. ///

Hell Creek Formation (Bismarck, Medora) where beginners find *T. rex*, *Triceratops*, and *Edmontosaurus* bones.
  - Hell Creek Fossils (North Dakota): Offers authentic expeditions for anyone interested in hunting for iconic dinosaurs.
- Pay-to-Dig Sites (Keep What You Find):
  - Fossil Lake Safari (Wyoming): Guaranteed success for plant and fish fossils, with nearby sites for dinosaur teeth.
  - Dig Wyoming Dinosaurs (Newcastle, WY): Success is essentially guaranteed for finding *Triceratops* teeth and bones.

How to "Prove" Carbon Dating is Real

Carbon dating is based on the predictable decay of unstable atoms. As an amateur scientist, you can't measure Carbon-14 without a million-dollar mass spectrometer, but you can prove the *principle* it relies on: Radioactive Decay.

1. The "Penny Decay" Experiment

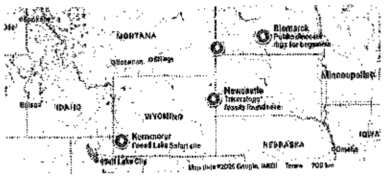
This simple model proves that a large group of random events (like an atom decaying) follows a perfect, predictable mathematical curve—the "half-life". Wired

1. Take 100 pennies and place them "heads up" in a box.
2. Shake the box and remove any pennies that flipped to "tails" (these have "decayed").

count the rings.

- Because the dates match perfectly for thousands of years, we know the "clock" is accurate. Texas Beyond History +4

Crucial Fact for Amateurs:
Carbon-14 has a short half-life (~5,730 years) and disappears after about 50,000 years. Since dinosaurs died 66 million years ago, scientists use Potassium-Argon or Uranium-Lead dating on the volcanic rock layers *around* the bones to determine their age.



24 sites

Where To Hunt Fossils? Fossil Parks & Pay-Per-Dig Quarries
Fossil fish found at the Fossil Lake Safari dig near Kemmerer, Wyoming by customers. Fossil Parks and Pay per Dig Quarries are a g...

Australian Museum

Show all

Isn't there a way to measure the decay of carbon-14 with a simple chemistry set?

Unfortunately, you cannot measure the decay of Carbon-14 using a standard chemistry set. The concentration of Carbon-14 is so incredibly low that it is essentially invisible to basic chemical reactions or affordable amateur equipment. University of Chicago News +2

Here is why a chemistry set won't work and what pros use instead:

Why a Chemistry Set Fails

- **Identical Chemistry:** Carbon-14 behaves chemically exactly like normal Carbon-12. There is no "test tube" reaction that can separate them because they bond with other atoms in the same way.
- **Extreme Scarcity:** Only about one in every trillion carbon atoms is Carbon-14. A chemistry set cannot detect a difference that minute.
- **Weak Radiation:** Carbon-14 emits "soft" beta particles that have very low energy. Most standard handheld Geiger counters cannot even detect them through the air or a container; you usually need a specialized "pancake" probe held within half an inch of the sample. Yale Environmental Health & Safety +5

2. Liquid Scintillation Counting: This involves dissolving the carbon sample into a special liquid that "flashes" with light every time a Carbon-14 atom decays. High-tech sensors then count these flashes. Rofe Research +2

The "DIY" Alternative

While you can't build a carbon-dater, you can simulate the physics at home. Many amateur scientists build a **Cloud Chamber** using dry ice and alcohol. While it won't date an object, it allows you to actually see trails from background radiation, proving that the radioactive decay used in dating is happening all around you in real-time.

Would you like a list of common household items that are actually radioactive enough to be detected with an affordable Geiger counter?

10 sites

Carbon-14 dating, explained - UChicago News
Apr 27, 2023 — "Libby's method remained the only way to measure carbon-14 in samples for several decades and was long considered the most accurat...

University of Chicago News

Radiocarbon Dating | Museum of Anthropology
Scientists can measure how old remains of plants or animals are by measuring the ratio of carbon-12 and carbon-14 in their remains...

can you measure the decay of carbon-12 with a basic chemistry set

No, because Carbon-12 does not decay.

Carbon-12 is a stable isotope, meaning it stays exactly as it is forever. Unlike Carbon-14, which is radioactive and breaks down over time (the "clock" used for dating), Carbon-12 is the "permanent" building block of life.

Here is the breakdown of why this matters for science:

- **The "Fixed" Amount:** Since Carbon-12 never decays, scientists use it as a baseline. When they date an object, they are comparing how much Carbon-14 is *left* against the amount of Carbon-12 that has *remained the same* since the organism died.
- **Chemistry Limits:** Even if it did decay, a chemistry set *only* measures how atoms bond or react (changing molecules). It cannot see what is happening inside the nucleus of an atom. To see the difference between Carbon-12 and Carbon-14, you need physics equipment that measures atomic mass, not a chemical reaction.

If you want to see an actual chemical reaction involving carbon with your chemistry set, you could try a **"Black Snake" experiment** (sugar and sulfuric acid) or a simple vinegar and baking soda reaction to see carbon dioxide (CO2) being released—but the atoms themselves will remain Carbon-12 throughout the whole process.

Do you want to know which radioactive isotopes (like Potassium) *can* be measured by amateurs to understand how we date older things like dinosaur

Carbon 14 to Carbon 12 today ...

Illustrative Mathematics

Carbon 12 - an overview | ScienceDirect Topics
Carbon-12 (12 C) is defined as a stable isotope of carbon that contains six protons and six neutrons, making it the most abundant ...

ScienceDirect.com

Problem 103 Anthropologists can estimate the... [FREE SOLUTION]
Over time, the carbon-14 decays while the carbon-12, a stable isotope, remains unchanged. This predictable decay rate of carbon-14...

Show all

how many different types of carbon are there?

It depends on whether you mean "types" in terms of how the atoms are built (isotopes) or how they are stacked together (allotropes).

1. Atomic Types (Isotopes)

There are 15 known isotopes of carbon, ranging from Carbon-8 to Carbon-22. However, only three are common in nature: Wikipedia +1

- **Carbon-12:** The most common (about 99%). It is stable and does not decay.

the most famous: ScienceDirect.com +3

- **Diamond:** Atoms are locked in a rigid 3D pyramid shape, making it the hardest natural material.
- **Graphite:** Atoms are in flat sheets that slide past each other (like in pencil lead).
- **Graphene:** A single, one-atom-thick layer of graphite; it's incredibly strong and conducts electricity.
- **Fullerenes (Buckyballs):** Carbon atoms arranged in hollow spheres or "soccer ball" shapes.
- **Carbon Nanotubes:** Graphene sheets rolled into tiny, ultra-strong tubes.
- **Amorphous Carbon:** A "jumbled" form with no clear crystal structure, found in substances like coal or soot. CK-12 Foundation +5

In short: There are 3 natural isotopes but hundreds of possible structural forms (allotropes).

Would you like to know more about the **nanotechnology uses** for graphene and nanotubes?

17 sites

How many different forms of carbon are there? - CK-12
Different forms, or allotropes, of carbon are diamond, graphite, and fullerenes. In diamond, each carbon atom is bonded to four ot...

CK-12 Foundation

ScienceDirect.com

Show all

If most people cannot participate in carbon dating due to the cost of a spectrometer, whats the next best way? something...

Since carbon dating is a physics process (measuring atoms) rather than a chemistry process (measuring reactions), you can't "date" an object with a chemistry set in the way a lab does.

However, you can perform **Forensic Material Analysis**. Instead of measuring isotopes, you look for "historical markers"—chemicals or materials that didn't exist before a certain date.

Here are the best ways an amateur can prove the history of an object using basic chemistry and observation:

1. For an Old Coin: The Acid/Reagent Test

You can't prove a coin's exact age, but you can prove its **composition**, which confirms if it belongs to a specific historical era.

- **The Test:** Use a silver or gold testing kit (nitric acid solutions).
- **The Proof:** If you have a "silver" quarter from 1964, it should react as 90% silver. If you test a 1965 quarter, the acid will show it's mostly copper and nickel.
- **Historical Marker:** This proves the "pre-1965" vs. "post-1965" transition in US

tiny corner of the paper.

- **The Result:**
  - **Turns bright red/pink:** It contains wood pulp (likely post-1850).
  - **No color change:** It is likely older "rag" paper or high-end modern stationary.

3. For Paper: The UV Fluorescence Test

You only need a simple UV (blacklight) flashlight for this.

- **The Marker:** Modern paper manufacturers began adding **Optical Brightening Agents (OBAs)** in the late 1940s to make paper look "whiter than white."
- **The Proof:** Shine a UV light on the paper. If it glows neon blue/white, it is almost certainly modern (post-WWII). If it stays dull or "dead" under the light, it is much more likely to be an authentic antique.

4. For Ink: Solvent Solubility

- **The Test:** Use a cotton swab with a tiny amount of **ethanol** or **acetone** on a single letter of text.
- **The Proof:** Most modern inks (ballpoint, inkjet) dissolve instantly. Ancient "Iron Gall" ink or very old carbon inks are much more resistant to simple solvents.

Which of these objects are you most interested in testing? I can give you a specific step-by-step guide for the one you choose.

Sexist Magnets
& Capacitors: I
Really Need another
male (he's not gonna
produce me babies
(although some may
have babies) YES,
I am looking for
Slaves! to pick up
all this Garbage!
(still trying to make a
Very Shit Show into a
Beautiful Movie!
much work!)

Despite its ancestors having feathers, Tyrannosaurus rex most likely had scaly skin, according to fossil evidence. Researchers say...

BBC

World's only fossils of T. rex skin suggest it was covered in scales— ...

New study suggests Jurassic Park got this detail right ... Mounting fossil evidence of feathers and protofeathers on several T. re...

Science | AAAS

World's Only Fossils of T. Rex Skin Suggest It Was Covered In ...

The dino image changed again in the past few decades, as evidence for feathered species accumulated. Two tyrannosauroids, Dilong a...

Geology In

Show all

show me a chicken skeleton compered to a t rex skeleton

2:14 PM

Comparing a chicken skeleton to a *Tyrannosaurus rex* skeleton reveals why paleontologists consider birds to be "living dinosaurs." Despite the massive difference in scale, they share a remarkably similar **S-shaped neck**, bipodal posture, and hollow bones. theHungryHacker.blog +3

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definitive link to theropod dinosaurs.

- **Three-Toed Feet:** Both species have a **tridactyl (three-toed) foot structure.** If you look at a chicken's foot, you are essentially looking at a miniaturized version of a *T. rex*'s deadly clawed foot.
- **Hollow Bones:** To remain efficient and (eventually) take flight, bird bones are hollow and filled with air sacs. *T. rex* fossils show the same **pneumatic (air-filled) bone structure**, which helped the massive predator stay agile despite its weight.
- **S-Curved Neck:** Both have **long, arched necks** that allow for flexible movement and precision during feeding or pecking. YouTube · Love Nature +5

Evolutionary Context

While popular media often says "chickens evolved from *T. rex*," it is more accurate to say they share a **common ancestor**. Both are part of the theropod group. In 2007, molecular analysis of 68-million-year-old *T. rex* protein found that its closest genetic match among modern animals is indeed the domestic chicken. Harvard Gazette +4

Would you like to see how the internal organs of a dinosaur might have functioned similarly to a modern bird's respiratory system?

11 sites

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Reddit

Proof That Chickens Are Actually T-Rexes | Strange Creatures ...

The video explores new evidence suggesting that the Tyrannosaurus Rex (T-Rex) may not be what was originally thought and could hav...

YouTube · Love Nature

Show all

experts suggest humans evolved from small mamals like mice, but what other ancient animals walked on 2 legs?

2:15 PM

While dinosaurs like the *T. rex* are the most famous examples, the ability to walk on two legs (**bipedalism**) has popped up several times in history across very different animal groups.

The "Land Crocodiles" (Triassic Period)

Long before the *T. rex*, a group of animals related to modern crocodiles ruled the land on two legs. These "croc-line" archosaurs looked like a mix between a raptor and an alligator. Earth Archives +2

Carnufex carolinensis (The Carolina Butcher): A 9-foot-tall predator that lived 231 million years ago. It walked upright and had a skull full of blade-like teeth.

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The First Bipeds (Permian Period)

Bipedalism actually predates the dinosaurs entirely.

Eudibamus cursoris: Living about 290 million years ago, this 10-inch-long reptile is the **earliest known biped** in the fossil record. It likely ran on two legs to escape predators, millions of years before the first dinosaur appeared. EurekAlert! +2

Other Prehistoric Bipedal Mammals

Humans aren't the only mammals to experiment with this gait.

Giant Ground Sloths (*Megalonyx*): While they often used four legs, these massive mammals could stand and move on their hind legs to reach high vegetation or defend themselves.

Pangolins: These scaly mammals are one of the only other living groups (besides humans and some primates) that frequently move using a two-legged stride. Wikipedia +1

Summary of Bipedal History:

- **Oldest Biped:** *Eudibamus* (290 million years ago).
- **Top Predator Bipeds:** The *Carnufex* and *Poposaurus* (Pre-dated *T. rex*).

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15 sites

Newly-discovered bipedal crocodile ancestor terrorized pre ...

Newly-discovered bipedal crocodile ancestor terrorized pre-dinosaur world. Science Mar 20, 2015 6:11 PM EDT. Before dinosaurs roam...

PBS

Bipedal crocodile ancestor discovered in North Carolina

Founder and Editor. All Posts. In Triassic North Carolina, a 9-foot-tall bipedal crocodile relative ruled the land with a jaw full...

Earth Archives

Ancient Bipedal Crocodiles? Oh Hell Yeah

According to Switek, strangely enough one of the most reliable ways to tell a bipedal croc fossil skeleton from a bipedal dino ske...

Science Over a Cuppa

Show all

did the eudibamus cursoris go extinct, it looks very much like the lizards that run on water

2:17 PM

Yes, **Eudibamus cursoris is completely extinct.** It died out near the end of the Permian period, roughly 250 million years ago, long before the first dinosaurs

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Why They Look Like "Twins"

- **The Sprinting Stance:** Like the Basilisk, *Eudibamus* had **hind legs that were significantly longer than its front legs** (about 64% longer), which allowed it to stand upright and sprint on two legs when threatened.
- **The Long Tail:** Both have a tail that more than doubles their body length, acting as a **critical counterbalance** so they don't tip over while running at high speeds.
- **The "Lizard" Illusion:** Although it looks like a lizard, *Eudibamus* belonged to a group called **Parareptilia**—an "evolutionary cousin" to true reptiles that may actually be more closely related to the ancestors of turtles. Nix Illustration +2

The Key Difference

The main difference is their posture. Modern bipedal lizards like the Collared Lizard run with their legs "sprawled" out to the sides. *Eudibamus* was actually more advanced in its movement; it held its legs **directly under its body**, much like a human or a T-Rex, making it one of the most efficient runners of its time. Wikipedia +2

Would you like to see a list of other modern animals that "accidentally" look exactly like extinct prehistoric creatures?

NS 11 sites

Two legs good | New Scientist

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CBC

Eudibamus - Nix Illustration

Eudibamus cursoris, a bolosaurid from the Early Permian of Germany (~284-279 mya). Although very lizard-like in appearance, this a...

Nix Illustration

Show all

show me the eudibamus side by side skeleton with the jesus christ lizard (basilisk)

2:17 PM

Comparing the 290-million-year-old Eudibamus cursoris with the modern **Basilisk lizard** (the Jesus Christ lizard) reveals a striking example of convergent evolution. While they share similar "long-legged" silhouettes, their internal skeletal mechanics are actually quite different.

The Bipedal Blueprint

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- **Elongated Toes:** Both animals have "stretched" foot bones (metatarsals and phalanges). *Eudibamus* likely ran on its toes (digitigrade posture), just as Basilisks do when they slap the water surface to create lift. Carnegie Museum of Natural History +5

The Hidden Difference: Sprawl vs. Stance

The biggest difference lies in how their legs connect to their hips:

- **Basilisk (Modern Sprawler):** Like most modern lizards, the Basilisk's legs **project outward** from the body in a "sprawled" position. When it runs on water, it has to swing its legs in a wide, circular arc.
- **Eudibamus (Advanced Stance):** In a surprise for its time, *Eudibamus* had evolved hip and knee joints that allowed it to tuck its legs **directly under its body** in a "parasagittal" stance. This is the same efficient upright posture used by humans and later by the T. rex. Wikipedia +2

Skeletal Stats Comparison:

Feature	*Eudibamus cursoris* (Permian)	*Basiliscus* (Modern)
Total Length	~26 cm	~60–80 cm
Leg Position	Under body (Upright)	Side of body (Sprawled)
Tail Proportion	~63% of body length	~70–75% of body length
Diet	Herbivore (vegetarian)	Omnivore (insects/fruit)

While the *Eudibamus* lineage was a "short-lived evolutionary experiment" that

AI Mode All Images Videos News More Sign in

11 sites

The Bromacker Fossil Project Part VII: Eudibamus cursoris, the ...

It could stand and locomote on its hind legs in an upright posture (bipedal) with its legs held close together and in the same pla...

Carnegie Museum of Natural Histo...

The Remarkable Basilisks - Tetrapod Zoology

It absolutely isn't correct to describe basilisks as 'aquatic' (seeing as they don't do anything like live in water or on its surf...

Tetrapod Zoology

Green crested basilisk - National Zoo

The lizard's hind limbs are much longer than its front limbs, and its toes are long and flattened. The tail is strongly compressed...

National Zoo

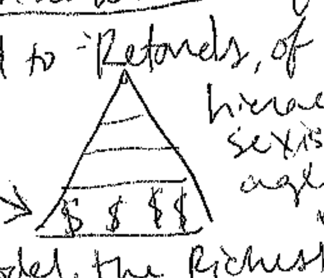
Show all

If i wanted to find dinosaur bones, wheres the best place to look for an amatour to have the best chances. and whats th...

Finding dinosaur bones as an amateur requires knowing where you are legally allowed to keep what you find, as many famous parks prohibit collection. Proving carbon dating is real requires understanding its mathematical decay,

4

26 05 18 L John Rankin Rogers
Barefoot School Boy Law: A
Every Poor Son of this
common wealth gets a
fair Education [& /or Eco-
System as well]
= I would make it impossible for
the Covetous and Avaricious to
utterly impoverish the Poor. The =
Rich can take Care of Themselves
(& Changed to "Retards, of the lowest
kind)



in this model, the Richest are
in fact, the most Retarded
thieves of the Public Good.
// Even though I identify with
the Collective, I did not
ever choose to be a part of it

I defined the Collective
Conscious which very few,
almost NON seem to be
participating in (based on
Records of Correspondence
with me/we/us)::: eventually
them/the-others (majority,
non transparent, because
a Minority controls the maj-
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ications that their awak-
ening is depending on.
/// Apparently I [SJB] am an anom-
aly because I actually
Love my Daughter mother
& Grandmother & all
sisters in between and of
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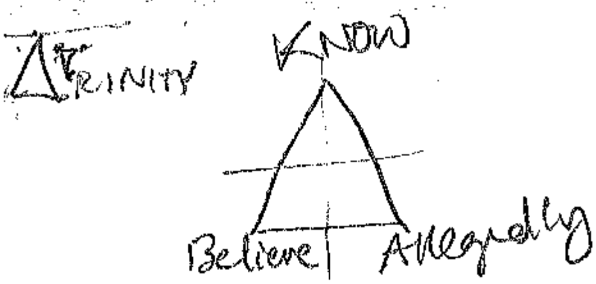
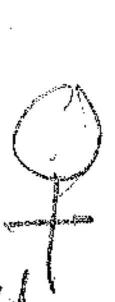
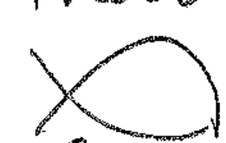




Unfortunately Many will
have to experience of the
women who I once loved
much more, than could
ever {reasonably so} after
their defiling

My [SJB] Reasoning: Trauma,
trust Realities and
I prefer my own shot
if given the choice of
others.
Thank you to the Current & past
Government for Destroying my

our Relationships / family
models. BUT AT LEAST
there are MANY



FISH IN THE
SEA! (a daughter
(given love,
personality, deformities
by another Man, for
so many years would
never likely Receive
the Same affection/
Love from me as a
daughter who I got
to raise / be with / shined-
upon AND shined-on
for ALL years!
26 05 18 L 5

- The Reindeer Replacement: Rex and his dinosaur friends harnessed to Santa's sleigh because the reindeer have the flu.

Another common 90s source is Barney's Night Before Christmas (1999), which features the purple T-Rex standing next to a large tree in the living room and later at Santa's workshop.

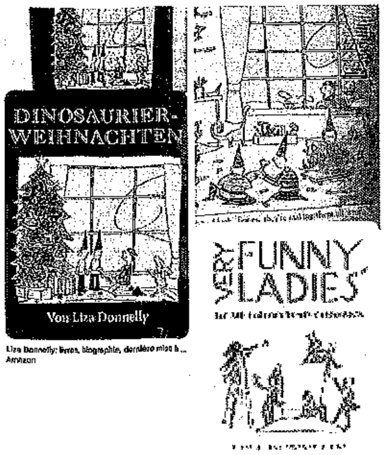
Would you like me to look for used copies of the 1993 Liza Donnelly book so you can see the full story?

I wanna see images

1:55 PM

Since the most iconic Christmas T-Rex from the '90s is "Rex" from Liza Donnelly's 1993 book, here are illustrations from that classic and another 90s staple, Barney.

These images capture that specific '90s hand-drawn, soft-color style where the T-Rex is always a gentle, slightly oversized holiday helper.



Liza Donnelly: livres, biographie, dernière mise à ... Amazon

- The North Pole Tree: Rex eventually makes it to the North Pole, where he stands taller than the trees in Santa's village.

Because these books are vintage, you can often find more interior photos on used-book listings at Etsy or Amazon.

Would you like to see if any of these are available as animated read-alouds online so you can see every page?

If the t rex brain is so small, what fills up the rest of the skull?

2:09 PM

While the Tyrannosaurus rex had a brain roughly the size of a human's—around 30 centimeters long—its massive 5-foot-long skull was primarily filled with jaw muscles, sensory organs, and large air pockets. BBC Science Focus Magazine +4

Inside a T. Rex Skull

Instead of a giant brain, the T. rex's head was designed for crushing force and sensory detection.

- Massive Jaw Muscles: A huge portion of the skull was dedicated to the eight adductor muscles responsible for its world-record bite force of over 7,800 pounds. Large holes in the back and sides of the skull, called temporal

as a "thermal window," helping the T. rex regulate its brain temperature and keep from overheating.

- Enormous Olfactory Bulbs: While the "thinking" part of the brain was small, the olfactory bulbs (used for smell) were huge, making up nearly a third of its total brain size. This gave the T. rex an exceptional sense of smell for tracking prey over long distances.
- Cerebrospinal Fluid: The brain itself did not even fill its small protective casing (the braincase). Like modern crocodiles, it likely occupied only 30 to 40 percent of that space, with the rest filled by protective fluid and vascular structures. WRAL +13

Essentially, if you were to look inside a living T. rex's head, you wouldn't find a lot of gray matter. Instead, you'd see a high-tech combination of muscle, air conditioning, and a massive biological radar for tracking scents.

Would you like to know more about how its vision or hearing compared to its legendary sense of smell?

17 sites

Tyrannosaurus rex had a built-in air conditioner, study says - WRAL
"Yet, for over 100 years we've been putting muscles into a similar space with dinosaurs. By using some anatomy and physiology of c...
WRAL

CT scans reveal that dinosaurs were airheads - EurekAlert!
The head of Tyrannosaurus rex was filled with sinuses that lightened the head while enhancing its strength. Credit: Lawrence Witme...

1. how long of distance could it sense of smell be, 2. compare it to other animals with that kind of smell and 3. create ...

2:11 PM

Prehistoric Senses and Power

The Tyrannosaurus rex was a sensory powerhouse, relying on one of the most advanced olfactory systems in history and a bite force that remains the strongest ever recorded for a land animal.

1. Scent Detection Distance

Scientific evidence suggests a *T. rex* could detect scents from miles away (roughly several kilometers). This incredible range allowed it to track live prey or locate decaying carcasses across vast ancient plains. FossilEra +4

2. Comparison to Modern Trackers

The *T. rex*'s olfactory bulbs—the part of the brain responsible for smell—were exceptionally large relative to its brain size. Facebook · Himalaya South Africa +2

- Superior to Dogs: Its sense of smell was superior to that of 12 bloodhounds combined.

Tyrannosaurus rex: Widely considered to have the best sense of smell among all dinosaurs due to its massive olfactory lobes.

Other Tyrannosaurids: Relatives like *Tarbosaurus* and *Albertosaurus* likely shared similar, though slightly less powerful, olfactory traits.

Dromaeosaurids (e.g., Velociraptor): These smaller hunters relied heavily on smell for tracking, though their smaller overall size meant smaller olfactory bulbs than their giant cousins.

Troodon: While known more for intelligence and vision, it also had significant olfactory development compared to many herbivores. Science | AAAS +3

4. Bite Force and Destructive Power

A *T. rex*'s bite force of 7,800 to 12,000+ pounds (approximately 35,000 to 57,000 newtons) is the highest recorded for any land animal. Facebook · Earth Unseen +2

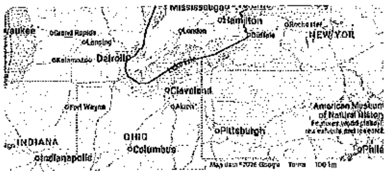
Hierarchy of Next Strongest Bites

If the *T. rex* is at the top, here is what follows in the terrestrial world:

To put this in perspective, this force is enough to crush car-sized bones with ease. National Geographic +1

- Buildings: A *T. rex* could easily tear through wood-frame houses, drywall, and glass. However, reinforced concrete or steel-frame buildings would resist a single bite, though the dinosaur's weight (up to 9 tons) could topple smaller structures.
- Jets: Modern aircraft skins are made of lightweight aluminum. A *T. rex* bite would puncture and shred the fuselage of a commercial jet or fighter jet effortlessly.
- Tanks: Modern main battle tanks (like the M1 Abrams) use composite armor designed to stop high-velocity shells. A *T. rex* would not be able to "tear apart" a tank's hull, though it could easily crush external equipment like sensors, treads, and machine gun mounts. Facebook · Dinosaur of Things · Nghien... +1

Would you like to explore how the binocular vision of a *T. rex* compared to that of a modern hawk?



FossilEra

Tyrannosaurus rex Gets Sensitive - Science
T. rex, with its forward-facing and widely separated eye sockets, turned out to have great binocular vision and, likely, depth per...
Science | AAAS

Did You Know? The Tyrannosaurus Rex, or T- ... - Facebook
Paleontological studies indicate that an adult T. rex could reach staggering dimensions, measuring up to 12.3 meters (40 feet) in ...
Facebook

Show all

how do they know the t rex didnt have feathers like a chicken?

2:13 PM

While some of its cousins were definitely "fluffy," scientists have found direct fossil evidence suggesting the adult Tyrannosaurus rex was mostly covered in scales rather than a full coat of feathers.

The Evidence Against the "Giant Chicken" Look

Paleontologists rely on a few key pieces of evidence to reconstruct the T. rex's exterior:

- Fossilized Skin Impressions: We actually have rare fossils of T. rex skin from

The "Maybe" Factor

While we know they weren't covered like chickens, many scientists haven't ruled out feathers entirely:

- Baby T. Rexes: Some experts believe hatchlings might have had downy feathers for warmth and then lost them as they grew larger.
- Sparse "Bristles": It is possible the T. rex had very sparse, hair-like feathers (similar to the sparse hair on an elephant) along its back or for display, but these wouldn't have been preserved in the known scaly skin patches. American Museum of Natural History +3

Comparison Table: T. Rex vs. Feathered Cousins

Feature	*Yutyrannus* (Cousin)	*Tyrannosaurus rex*
Size	~1.5 tons	~9 tons
Climate	Cooler (Early Cretaceous)	Warmer (Late Cretaceous)
Fossil Evidence	Direct evidence of full feathers	Direct evidence of scales

THE NASTIEST WOMEN OF ALL TIME

Will Be

REMEMBERD

!!!

THEN, WE WILL shall FINALLY LEARN FROM HISTORY!!!

7 sites

1990's Dinosaur Book - Etsy
1990's Dinosaur Book * Vintage 1990's The Dinosaur that Followed Me Home by Bruce Coville Softcover ... * Barney Mother Goose Boo...

Etsy

Cartwheel Books - Etsy
I SPY Spooky Night: A Book of Picture Riddles, Hardcover 1996, Cartwheel Books, Halloween Books. (12k) Only 1 available and it's ...

Etsy

1990's Dinosaur Book - Etsy Canada
1990's Dinosaur Book * 2 Barney books,Barney says Please & Thank You,Barney book of Airplanes,childrens book,character development...

Etsy

Show all

show me as many images from chikirens books of a t rex standing next to a christmas tree

1:53 PM

Here are several images of T-Rexes standing next to, or even becoming, Christmas trees from popular children's books and holiday art:

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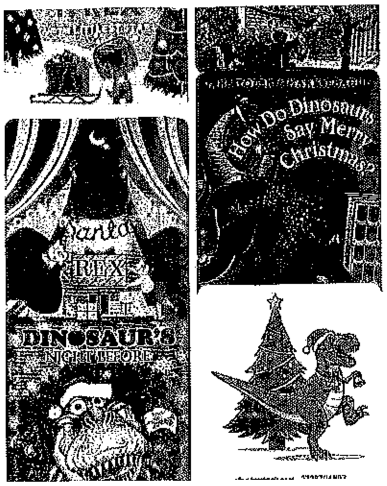

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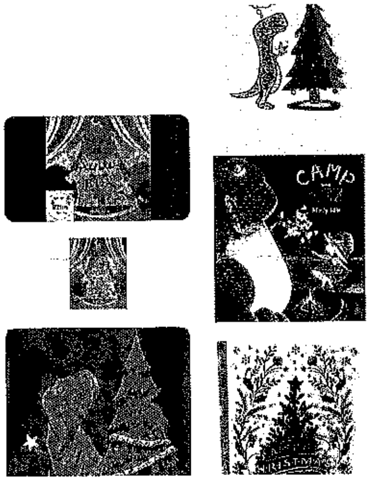
AI Mode All Images Videos News More

How Do Dinosaurs Say Merry Christmas? | Christ...
YouTube

AI Mode All Images Videos News More



AI Mode All Images Videos News More

Dinosaur's Night Before Christmas book by Jim ...
Thriftbooks

AI Mode All Images Videos News More

including T-Rex types, awkwardly but sweetly helping with festive decorations.

- Santa Rex: Depicts a very large T-Rex being gentle (and sometimes not-so-gentle) around a family's Christmas tree.
- Dinosaur's Night Before Christmas: Features a bold, "Santa-fied" T-Rex right on the cover.

Would you like to see more internal page illustrations from any of these specific books?

show me more

1:54 PM

While modern books like Tiny T. Rex and the Littlest Star and Santa Rex are known for their vibrant covers of T-Rexes with trees, interior illustrations from the 90s and early 2000s often featured them in more chaotic or whimsical festive scenes.

Additional T-Rex & Christmas Tree Illustrations:

The Dinosaurs' Night Before Christmas (2002): Illustrated by Nathan Hale, this book features a standout scene where a young boy helps a duckbilled dinosaur

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Rory the Dinosaur Needs a Christmas Tree (2017): By Liz Climo, this features Rory and his T-Rex dad searching their tropical island for anything that can serve as a festive tree, ultimately decorating their home in a unique "island style".

Dinosaurs' Christmas (1993/2003): In Liza Donnelly's classic, the T-Rex character Rex is often shown helping Santa at the North Pole, including scenes where he towers over the trees in the elves' workshop.

Dinosaur Christmas (2013): Illustrated by Howard McWilliam, this features a T-Rex that tries to help Santa but ends up being a bit too enthusiastic—frequently appearing next to festive scenes where he is just a little too large for the traditional decor.

For a closer look at these prehistoric holiday scenes, watch a read-aloud of Tiny T. Rex's latest spring adventure:

Tiny T. Rex is excited to show you his new book— Tiny T. Rex ...

Chronicle Kids
Facebook · Jan 13, 2026

Would you like me to find a specific scene from one of these books, such as the T-Rex helping to decorate the tree?

AI Mode All Images Videos News More

Christmas Kids Books Read Aloud - YouTube
This content isn't available. Dino-Christmas Author - Lea Wheeler Illustrator - Barry Gott ABOUT THE BOOK Have yourself a merry D...

YouTube

Rory the Dinosaur Needs a Christmas Tree
In this companion to Rory the Dinosaur: Me and My Dad, Rory brings the Christmas spirit to his friends and family! When Rory the D...

Rory the Dinosaur Needs a Christ...

Show all

Just show me as many images from a book published in the 90s

1:54 PM

The most prominent Christmas T-Rex book from the 1990s is Dinosaurs' Christmas by Liza Donnelly (1993). It features a young boy and his friendly T-Rex, Rex, who help Santa save the holiday.

Because this title is over 30 years old, complete digital galleries are rare, but here are the primary visual moments from that era:

Images could not be shown right now. Please try again.

(Note: Visuals for 90s titles often appear in used-book listings on AbeBooks or eBay as they are largely out of print.)

2

260510 SdJB Google/Gemini

christmas t rex children's book

1:46 PM

Top Christmas T-Rex children's books include Tiny T. Rex and the Littlest Star (a heartwarming story about friendship and kindness) and Dinosaur Christmas by Jerry Pallotta, which imagines T-Rexes pulling Santa's sleigh. Other festive favorites feature Tiny Tooth, Teddy the T-Rex, and the popular *Santa Rex* for young readers. Amazon.com +4

Popular Christmas T-Rex Titles:

- **Tiny T. Rex and the Littlest Star by Jonathan Stutzman:** Part of a bestselling series, this features Tiny T. Rex on a mission to find the perfect star for his Christmas tree, highlighting themes of generosity.
- **Dinosaur Christmas by Jerry Pallotta:** A fun tale exploring what Santa did before reindeer, featuring a chaotic T-Rex.
- **Teddy the T-Rex's Christmas Adventure by Helen Meese:** Follows Teddy, who loves Christmas lights and giving to others.
- **Tiny Tooth and the First T-Rexmas by M.P. Green:** A rhyming story about how a small dino started a big holiday tradition.
- **Santa Rex by Molly Idle:** Follows a T-Rex trying to be very careful and gentle during Christmas. Amazon.com

These books are generally aimed at toddlers and preschoolers (ages 3–7), focusing on friendship, kindness, and festive, prehistoric fun.

Ask anything

+

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Amazon.com

Dinosaur Christmas
What did Santa use to pull his sleigh before he had reindeer? Dinosaurs! Santa Claus reminisces about "the good old days" when din...

Google

Tiny T. Rex and the Littlest Star: A Tiny T. Rex Christmas Book
Make Christmastime extra merry and bright with Tiny T. Rex and his friends - starring in a holiday picture book from New York Times...

Google

Show all

list by publication dates

1:46 PM

Here are common Christmas T-Rex children's books, ordered from the earliest to most recent publication dates:

Dinosaur Christmas by Jerry Pallotta (2013): A humorous look at Santa's "good old days" when various dinosaurs—including a very lick-happy T-Rex—tried their hand at pulling his sleigh.

Teddy the T-Rex's Christmas Adventure by Helen Meese (2025): Follows Teddy, a T-Rex who enjoys festive lights and

AI Mode All Images Videos News More ▾ Sign in

Tiny T. Rex and the Littlest Star by Jonathan Stutzman (2026): Part of a popular series, this upcoming title features Tiny T. Rex and his friends working together to find the perfect star for their tree. Amazon.com +6

Other Notable Holiday Dinos:

Santa Rex by Molly Idle (2017): A holiday follow-up to the *Tea Rex* series, focusing on a T-Rex attempting to be a gentle guest during Christmas festivities.

Would you like more information on **age-appropriate dinosaur books** for a specific reader?

7 sites

Amazon.com: Dinosaur Christmas: 9780545433600
Book details * Reading age. 1 - 5 years, from customers. * Print length. 32 pages. * Language. English. * Grade level. Kindergarte...

Amazon.com

Teddy the T-Rex's Christmas Adventure - Barnes & Noble
Table_title. Product Details Table_content: header: | ISBN-13: | 9798999232939 | row: | ISBN-13:: Publisher: | 9798999232939: Hann...

AI Mode All Images Videos News More ▾ Sign in

show me some published in early 200's

1:47 PM

Here are Christmas-themed T-Rex children's books published in the early 2000s (specifically 2000–2005):

- **Dinosaur's Night Before Christmas (2002) by Anne Muecke and Nathan Hale:** This zany picture book reimagines the classic poem with a dinosaur twist, featuring a T-Rex in a red suit who comes down the chimney after being pulled by eight massive dinosaurs.
- **T-Rex Is Missing! (2002)** by Tomie dePaola: While not exclusively a "Christmas book," this entry in the *Barker Twins* series is a popular holiday-adjacent read for dino fans. It follows the story of a lost toy T-Rex, emphasizing themes of responsibility and friendship.
- **Dinosaurs' Christmas (2003) by Liza Donnelly:** Part of the *Step-into-Reading* series, this story features a T-Rex named Rex and his dog, Bones, who have to save Christmas after Santa gets the flu and the elves start making the toy dinosaurs all wrong.
- **Dinosaur T. Rex Trick-or-Treats (2005) by Jean Fritz:** Although primarily a Halloween title, this book was part of a wave of early 2000s T-Rex holiday books and is often bundled with winter holiday stories for young readers. Encyclopedia.com +5

Note on Availability: Because these titles were published over 20 years ago, they are most easily found through used book retailers like World of Books or Better World Books.

Would you like me to find more recent holiday T-Rex books, or perhaps some

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The Barker Twins: 1 - Morgan and Moffat Go to School (Aug-2000) 2 - Fun-all-week All Week (Oct-2000) 3 - Boss for a Day (Nov-2001...

FictionDB

dePaola, Thomas Anthony 1934- | Encyclopedia.com
SELF-ILLUSTRATED; "BARKER BUNCH" SERIES; UNDER NAME TOMIE dePAOLA. Meet the Barkers: Morgan and Moffat Go to School, Putnam (New Y...

Encyclopedia.com

Dinosaur T. Rex Trick-or-Treats (2005) Kids Children ...
Dinosaur T. Rex Trick-or-Treats (2005) Kids Children Hardcover Book * Free shipping. * Free 30-day returns.

Walmart

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2000s*

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During the 2000s, several Christmas-themed dinosaur books were released, often reimagining holiday classics with a prehistoric twist.

Christmas T-Rex Titles from the 2000s:

Dinosaur's Night Before Christmas (2008) by Jim Harris: A zany reimagining of the classic poem where a T-Rex in a red suit comes down the chimney and eight

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Barney's Christmas Surprise (2000) by Scholastic: Featuring the most famous purple T-Rex, this book focuses on Barney and his friends preparing for holiday celebrations. Target +3

Why These Books Stood Out:

In this era, the trend was to use dinosaurs—especially the "ferocious" T-Rex—to teach gentle holiday lessons like kindness, patience, and good manners. These stories often juxtaposed a T-Rex's large, clumsy size with delicate tasks like hanging ornaments or waiting for Santa. YouTube · Book Time with Mol

Potential Troubleshooting:

- **Search Tip:** If looking for physical copies, search for "Jim Harris Dinosaur Christmas" or "Jane Yolen Dinosaur Christmas" on sites like World of Books or eBay to find original printings from that decade. eBay

Would you like to find more titles from this specific era that feature other dinosaur species besides the T-Rex?

4 sites

Dinosaur Christmas Books - Target
1,000+ results for "dinosaur christmas book" $10.36. MSRP $17.99. What the Dinosaurs Did the Night Before Christmas - by Refe Tuma...

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show me more published in early 2000's

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In addition to the previous list, here are more Christmas T-Rex and dinosaur children's books published between 2000 and 2005:

- **The Dinosaurs' Night Before Christmas by Anne Muecke (2002):** In this museum-set story, dinosaur fossils come to life to sing, dance, and eat gingerbread. It features a festive T-Rex in a Santa suit and often includes a CD of dinosaur-themed Christmas music.
- **Dinosaurs' Christmas by Liza Donnelly (Updated Edition, 2003):** While originally from the '90s, this book saw a resurgence in the early 2000s. It stars a T-Rex named Rex who travels to the North Pole to help Santa when all the reindeer catch the flu and the elves start making the dinosaur toys incorrectly.
- **Barney's Christmas Surprise (2000):** A holiday board book featuring the famous purple T-Rex, Barney. It focuses on the importance of friendship and the "surprise" of holiday gift-giving.
- **T-Rex Is Missing! by Tomie dePaola (2002):** Part of the *Barker Twins* series, this story revolves around a lost toy T-Rex. While the plot is centered on a missing toy, it is a winter holiday staple often read during the Christmas season for its themes of kindness and resolution. eBay +4

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2003	*Dinosaurs' Christmas*	Saving Christmas at the North Pole

Because these are older titles, you might have the best luck finding them through used book sites like AbeBooks or World of Books. AbeBooks +1

Would you like to see books from the late 2000s (2006–2009) or should we focus on a different dinosaur species for the holidays?

9 sites

Dinosaurs Christmas (Read With Me) - Paperback By Donnelly, Liza
* Product Identifiers. Publisher. Scholastic, Incorporated. ISBN-10. 059044798X. ISBN-13. 9780590447980. eBay Product ID (ePID) 80...

eBay

Triceratops Gets Lost - Bentley, Dawn: 9781592491650
View all 5 copies of Triceratops Gets Lost from US$ 6.19. Hardcover. ISBN 10: 1592491650 ISBN 13: 9781592491650. Publisher: Soundp...

AbeBooks

25+ Copies Hardcover Book The Dinosaurs' Night Before Christmas by Anne Muecke, 9780811863223
The dinosaur fossils in the museum come to life (and sing, dance, and eat gingerbread) in this rollicking twist on the classic poe...

Google

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In the 1990s, the "dinosaur craze" sparked by *Jurassic Park* led to several festive T-Rex titles. Many of these books are now considered vintage and may be found through used booksellers like AbeBooks or eBay.

Christmas T-Rex Titles from the 1990s:

- **Dinosaurs' Christmas (1993) by Liza Donnelly:** One of the most iconic 90s titles, this book follows a young boy and his T-Rex friend, Rex, as they travel to the North Pole. They have to save Christmas because the reindeer have the flu and the elves are accidentally making all the toy dinosaurs look "wrong".
- **Dinosaur Valentine (1994) by Liza Donnelly:** While specifically a Valentine's book, this 90s staple featured the same T-Rex character (Rex) and was frequently sold in holiday bundles alongside his Christmas adventure.
- **Barney's Night Before Christmas (1999):** Released at the height of the character's popularity, this story features the famous purple T-Rex, Barney, taking his friends to the North Pole to visit Santa's workshop.
- **Dino-Roars: A Dinosaur Christmas (Late 90s):** Part of a series of early "sound books" where pressing a button would make the T-Rex "roar" to the tune of a classic Christmas carol like *Jingle Bells*. Etsy +3

Why 90s Dino Books Were Different:

Books from this decade often leaned into the **"gentle giant"** trope. Instead of the educational or zany styles of the 2000s, 90s stories frequently portrayed T-Rexes as oversized, helpful pets or magical companions (like Rex or Barney) who were just trying their best to fit into human holiday traditions. Etsy

How to find them today: